

Title (en)

Electric heating type hot water heating apparatus, vehicle air-conditioning apparatus provided therewith, and vehicle

Title (de)

Elektrische heizungsartige Heißwassererwärmungsvorrichtung, Fahrzeugklimaanlagenvorrichtung damit und Fahrzeug

Title (fr)

Appareil de chauffage à eau chaude de type chauffage électrique, appareil de climatisation de véhicule équipé de celui-ci et véhicule

Publication

**EP 2607120 A1 20130626 (EN)**

Application

**EP 12198255 A 20121219**

Priority

JP 2011277514 A 20111219

Abstract (en)

An object of the invention is to provide an electric heating type hot water heating apparatus which can efficiently perform heating and whose size and weight are reduced, a vehicle air-conditioning apparatus provided therewith, and a vehicle. SOLUTION The electric heating type hot water heating apparatus 100 according to the invention, which supplies hot water as a heat transfer medium to a heating heat exchanger disposed in a vehicle air-conditioning apparatus via a piping, comprising a case 30 having an inlet port 31, a flow path 40, and an outlet port 32 of the heat transfer medium; and a ceramic heater 200 disposed in the flow path 40.

IPC 8 full level

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Citation (applicant)

- JP 2011143781 A 20110728 - SANDEN CORP
- JP 2006236617 A 20060907 - NGK SPARK PLUG CO

Citation (search report)

- [XI] DE 29506235 U1 19950629 - IRMSCHER GMBH [DE]
- [X] DE 3447182 A1 19860626 - KROMBERG & SCHUBERT [DE]
- [X] DE 29513487 U1 19951012 - SEICO IND ELEKTROWAERME GMBH [DE]
- [A] DE 3512659 A1 19861009 - BOSCH GMBH ROBERT [DE]

Cited by

CN105571129A; CN107487156A; CN107471960A; CN113551414A; FR3012872A1; CN105899888A; CN108808982A; CN109899963A; WO2015086950A1; WO2015067454A1

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